A suprascapular nerve arthroscopic anterior & posterior release in elite volleyball players

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- I have no financial conflicts to disclose
Introduction

- Suprascapular nerve entrapment seems to be common but often misdiagnosed, especially in volleyball athletes.
- This may lead to failure of conservative and operative treatment in athletes with persistent shoulder pain and dysfunction.
Aim of the study

1. To establish an early diagnosis of the suprascapular nerve (SSN) entrapment in volleyball players with concomitant shoulder overuse syndrome and injuries.

2. To point out that arthroscopic release plays an important role for their appropriate treatment and recovery.
Methods: Inclusion criteria

SSN entrapment

- Elite volleyball players were recruited for arthroscopic treatment of their intra-articular pathology from Jan 2005 to Nov 2017
- Non-professional players were excluded from the study

Clinical & subjective findings:
- Athletes with conspicuous atrophy of the infraspinatus and/or supraspinatus muscles
- Some would report shoulder weakness especially in external rotation and abduction during examination and/or numbness in the posterior shoulder

Diagnosis: confirmed through clinical examination and imaging studies
Methods: Data collection

- Patient demographics: age, gender
- Level of competition
- Pre-operative diagnosis: concomitant shoulder pathology
- EMG and MRA findings to confirm diagnosis
- Range of motion, pain, changes in muscle atrophy if noted
- Patient satisfaction rate
- Return to sports rate

Definite diagnosis was made intra-operatively
Results: Sample characteristics

40 volleyball athletes were included:
- mean age 26 years (16-34)
- 32 male; 8 female

All underwent shoulder arthroscopic procedures for treating their main shoulder pathology. During arthroscopy, SSN anterior and/or posterior release was performed.

All underwent postoperative rehabilitation focused on gradually regaining range of motion with respect to healing tissues and later on recruiting the rotator cuff muscles.
Results: Intra-operative findings

Spinoglenoid notch nerve compression in 23/40 participants
Suprascapular notch compression in 17/40 participants

Concomitant shoulder pathology:

Rotator cuff repair performed in 8/40 patients
Labral repair performed in 11/40 patients
Both procedures performed in 21/40 patients
Results

All patients had complete pain relief especially at the posterior shoulder.
Muscle atrophy improved.

40/40 gradually regained full range of motion.
35/40 fully recovered at the pre-injury level and were very satisfied.
3/40 were satisfied.
2/40 were partially satisfied.
Discussion

- In patients with advanced SSN entrapment significant muscle wasting is often irreversible.
- This underscores the importance of a quick and accurate diagnosis to facilitate appropriate intervention.
- Volleyball players due to their increased shoulder ROM predispose in SSN entrapment and shoulder injuries and vice-versa.
Conclusions

- Arthroscopic shoulder procedure for repairing glenohumeral pathology with a simultaneous arthroscopic SSN release seems to be the appropriate treatment regarding to our current results.

- To our knowledge, literature concerning suprascapular neuropathy in overhead athletes, such as baseball pitchers and volleyball players seem to have agreeable results.


